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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/986,114	11/07/2001	Akio Yamamoto	3673-0125P	4907

2292 7590 10/19/2006

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EXAMINER

SENF, BEHROOZ M

ART UNIT PAPER NUMBER

2621

DATE MAILED: 10/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/986,114

Applicant(s)

YAMAMOTO ET AL.

Examiner

Behrooz Senfi

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action mend to replace the previous Office Action, dated 9/17/2006 to correct the indication of Final Office Action.

Response to Amendment

2. Applicant's arguments filed 03/24/2006 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 – 2 and 9, are rejected under 35 U.S.C. 103(a) as being unpatentable over Katayama (US 6,458,035).

Regarding claim 1, Katayama teaches, "a ball motion measuring apparatus (i.e. fig. 1) comprising: a CCD camera for photographing a flying ball to obtain original image data (i.e. figs.1 and 2, CCD camera 13), a calculating section for carrying out a magnifying process on only a portion of an original image including a ball image, thereby calculating magnified image data (i.e. fig. 4, ball 11, col. 1, lines 60 – 66, col. 4, lines 45 – 65) and a display section for displaying a magnified image based on the magnified image data wherein the magnified image data is used to calculate ball motion

(i.e. fig. 4, image 11 in display area 40-A) and wherein the calculating section extracts coordinates of an apparent point on the magnified image data, compares the extracted apparent coordinates with corresponding predetermined undistorted coordinates (note that, the predetermined undistorted coordinates is also coordinates of another magnified image; specification, page 7, lines 23 – 26) of the ball to thereby calculate an error between the extracted apparent coordinates and the predetermined coordinates, and calculates true coordinates of the points on the magnified image data based on the calculated error (fig. 4, col. 4, lines 45 – 65, magnified images being used to calculate the true coordinates of the ball motion).

Katayama patent is silent in regards to explicit of “calculated error increases in accordance with a distance from a center of the magnified image data”. Examiner takes Official Notice to note that, it is well known in the camera photographic field that the distance of the object from the camera have a direct relation with increasing and/or decreasing the error (for example; if distance of the object increase, the error would be increased and vice verses, error decreases if the distance of the object decrease, also see background of the instant application (page 3, lines 9 – 12)). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to implement such teaching, as they are well known in the prior art of the records.

Regarding claim 2, Katayama patent is silent in regards to “camera has a horizontal view angle of 10 degree or more”. Examiner takes Official Notice to note that the above limitation, reads on cameras pan, tilt or zoom, which is so well known in the prior art of the record (i.e. camera field). Therefore, it would have been obvious to one

having ordinary skill in the art at the time of the invention to implement such teaching, as they are so well known in the prior art of the record.

Regarding claim 9, the limitations claimed have been analyzed and rejected with respect to claim 1 above.

5. Claims 3, 5 – 8, are rejected under 35 U.S.C. 103(a) as being unpatentable over Katayama (US 6,458,035) in view of Yokota et al. (US 5,905,530).

Regarding claim 3, the limitations claimed are substantially similar to claim 1 above. Therefore, the ground for rejecting claim 1 above also applies here. Furthermore, Katayama teaches, wherein the coordinate error is corrected based on a correction ratio between a coordinate of a position on an undistorted image (i.e. fig. 4, image 11 in display area 40-A) of the ball and a corresponding position on the ball in the distorted original image (i.e. fig. 4, image 11 in display area 40-B, col. 4, lines 55 – 65) and for the limitation “wherein the correction ratio increases in accordance with a distance from a center of the original image data” as claimed, is a well known feature in the prior art of the record, as admitted in the background of the invention (page 3, lines 9 – 12), the distortion in a peripheral portion (a portion having a great distance from the center of the image) is considerable which will result in increasing correction ratio.

Katayama is silent in regards to, correcting a distortion made by camera lens.

Yokota in the same field teaches (i.e. figs. 1, 5 and 35, abstract, lines 10 – 12, cols. 1, lines 65 – col. 2, lines 29 and cols. 7 – 11) teaches process of correction of the image distortion caused by the camera lens and also distorted and undistorted image with respect to the object, to have undistorted (true) coordinates of the object image. In

view of the above, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to improve the image pickup apparatus for correcting a distortion of an image necessarily occurring due to a photographing lens (distortion correction) with consideration of the moving object as taught by Yokota.

Regarding claim 6, the limitations claimed are substantially similar to claim 3, and “the shift of a direction of the object image from a direction of an optical axis of the camera” would be included in the process of the correcting the object image distortion, as discussed in claim 3. Therefore, the grounds for rejecting claim 3 also apply here.

Regarding claims 5 and 7 – 8, combination of Katayama and Yokota teach, “horizontal view angle of 10 degrees or more” (col. 3, lines 35 – 45 of Yokota).

Contact

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Behrooz Senfi** whose telephone number is **(571) 272-7339**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, **Mehrdad Dastouri** can be reached on **(571) 272-7418**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

(571) 273-8300

Application/Control Number: 09/986,114
Art Unit: 2621

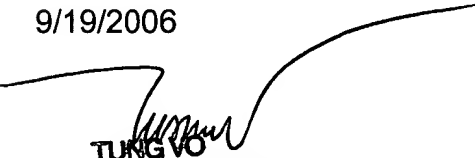
Page 6

Hand-delivered responses should be brought to Randolph Building, 401 Dulany Street, Alexandria, Va. 22314.

Any inquiry of a general nature or relative to the status of the application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is **(571) 272-6000**.

B. M. S.

9/19/2006



TUNG VO
PRIMARY EXAMINER